

# INDIGO-CLEAN™ M4SEDIC SERIES

## Patented Continuous Environmental Disinfection System

### Dual Mode Disinfection LED with KORE Technology™

#### PRODUCT FEATURES:

- » Two operational modes: White Disinfection Mode & Indigo Disinfection Mode
- » KORE Technology™ design with symmetric optic distribution and uniform lens appearance
- » Universal housing accommodates either flange (drywall) or grid ceiling applications
- » Sealed housing, smooth exterior doorframe and lens for infection prevention and simplified cleaning protocols
- » Conducted emissions controlled as per MIL-STD-461G



#### SPECIFICATIONS

**HOUSING:** Standard 24-gauge cold rolled steel with dust-tight, sealed construction. Alternate material options available. Integral LED heat sink. Rigid housing flange with mitered and welded corners. White TGIC polyester powder coat finish – 5-step pre-treatment. Salt spray test: 1,000 hours. Antimicrobial finish on all exposed painted surfaces of installed luminaire. Internal high reflectance coating. Flange finish matches housing, regardless of doorframe finish.

**DOORFRAME:** Standard 20-gauge cold rolled steel. One-piece inset style construction with welded corners. Steel and Aluminum selections are finished with gloss white TGIC polyester powder coat finish with 5-stage pre-treatment. Optional 20-gauge type 304 stainless steel (#4 finish-post fabrication). Antimicrobial finish standard on all exposed painted surfaces. Doorframe secured to housing with stainless steel aircraft cables and captive flush-mounted Phillips head stainless steel fasteners - (8) for 1x4 and 2x2, (10) for 2x4. One-piece, closed-cell silicone gasket seals doorframe to housing.

**OPTICS:** Injection-molded, high refraction optics provided for each occupied-mode LED. Proprietary KORE Technology™ (Kenall Optical Radiance Engine) delivers improved visual performance and uniform diffuser luminance (< 1.5:1 max/min ratio across full lens area). Impact-resistant diffused acrylic outer lens.

**ELECTRICAL:** Serviceable mid-power white LED array and high-power 405 nm indigo LED array. Available 3700K and 4300K color temperatures with maximum 3-step MacAdam variation allowance. Minimum 80 CRI standard with optional minimum 90 CRI available. 120/277VAC, 50/60Hz electrical input with serviceable high power factor electronic, constant-current drivers (< 20% THD, > 0.88 PF). Minimum 85% driver efficiency. Standard 0-10V dimming with 1-100% range with dim-to-dark capabilities in White Disinfection Mode. 330 µA maximum source current to dimming line. Two operational modes: White Disinfection Mode is a white LED array for ambient lighting plus simultaneous low-power 405nm indigo array for low-level continuous environmental disinfection. Indigo Disinfection Mode is a high power 405nm Indigo LED array for continuous environmental disinfection. Operational mode determined via internal low-voltage device based upon input provided by external IC100 room control system. EMC meets or exceeds MIL STD 461G conducted requirements.

**INSTALLATION:** IC-rated for recessed ceiling mounting into grid and flange application types. Flange installation utilizes included adjustable swing-out mounting brackets. Grid installation suitable for 1" and 1.5" T-bar ceilings. Universal installation into flange (drywall) or grid ceiling applications.

**PHOTOMETRICS:** Photometry tested to the IESNA LM-79-08 standard. For additional photometric data, please contact Indigo-Clean@Kenall.com.

**PATENT:** Indigo-Clean products and technology covered by U.S. Patent No. US 9,039,966 and US 8,398,264. Product may also be covered by patents found at www.kenall.com/patents. Other patents pending.

**WARRANTY:** Limited five (5) year Kenall LED warranty.

**LISTINGS:** Luminaire is certified to UL standards by Intertek Testing Laboratories for IC and Wet Location installations. ETL certified IP65 per IEC 60598. NSF2 Splash/Non-Food Zone. Meets FED-STD-209E/Class 1 (ISO 3) Cleanrooms. Conducted emissions compliant with MIL-STD-461G limits. CCEA Approved. EPA Est. No. 99283-WI-1.



#### ORDERING INFORMATION (Ex: M4SEDIC-24-130I/125C-37K8-DIM1-277-2F-4H-SYM-RM)

Model	Size	Lamp Power	Lamp Color	Driver	Input Voltage	Doorframe	Housing	Optics	Options
<b>M4SEDIC</b>				<b>DIM1</b>				<b>SYM</b>	
<b>Size</b>				<b>Driver Type</b>				<b>Optics</b>	
<b>14</b>	1'x4' Nominal			<b>DIM1</b>	0-10V Dimming to 1% with Dim-to-Dark Capabilities in White Mode			<b>SYM</b>	Symmetric, Diffused DR Acrylic
<b>22</b>	2'x2' Nominal			<b>Input Voltage</b>				<b>Options</b>	
<b>24</b>	2'x4' Nominal			<b>120</b>	120VAC, 50/60Hz			<b>LEL</b>	10W Integral Emergency Battery Pack
<b>Lamp Power</b>				<b>277</b>	277VAC, 50/60Hz			<b>FS</b>	Fuse & Holder
<b>1'x4'</b>				<b>Doorframe Options</b>				<b>IF*</b>	Install Frame
<b>65I/62C</b>	65 Watt Indigo/62 Watt White Disinfection LED			<b>2F</b>	20-Ga CRS in Antimicrobial Gloss White (STD)			<b>RM*</b>	Continuous Row Mounting
<b>2'x2'</b>				<b>PAF</b>	Fabricated Aluminum in Antimicrobial Gloss White				
<b>65I/62C</b>	65 Watt Indigo/62 Watt White Disinfection LED			<b>5F</b>	20-Ga Type 304 SS 4B Brushed Finish				
<b>2'x4'</b>				<b>Housing Options</b>					
<b>130I/125C</b>	130 Watt Indigo/125 Watt White Disinfection LED			<b>4H</b>	24-Ga CRS in Antimicrobial Gloss White (STD)				
<b>Lamp Color</b>				<b>2H</b>	20-Ga CRS in Antimicrobial Gloss White				
<b>37K8</b>	3700K, 80 CRI			<b>5H</b>	20-Ga Type 304 Stainless Steel				
<b>37K9</b>	3700K, 90 CRI			<b>PAH</b>	.050" Fabricated Aluminum in Antimicrobial Gloss White				
<b>43K8</b>	4300K, 80 CRI								
<b>43K9</b>	4300K, 90 CRI								

▲ Add .375" to ceiling cutout dimensions  
\* Only available when installing in drywall ceilings (flange mount)



# INDIGO-CLEAN™ M4SEDIC Series

## Patented Continuous Environmental Disinfection System

### Dual Mode Disinfection LED with KORE Technology™

Size	Lamp Code	Delivered Lumens (lm)	Efficacy (lm/W)	Power Consumption <sup>1</sup>			Color Rendering		TM-30 Color Quality <sup>2</sup>		TM-21 Reported L70 Hours (White/405)
				Occupied (W)	LPD (W)	Unoccupied (W)	R <sub>a</sub>	R <sub>g</sub>	R <sub>f</sub>	R <sub>g</sub>	
1' x 4'	65I/62C-37K8	6,556	96	68	57	72	83	12	78	101	>72,000 / 50,000
	65I/62C-37K9	5,627	83				95	65	88	104	
	65I/62C-43K8	6,728	99				83	9	81	99	
	65I/62C-43K9	5,696	84				95	69	91	103	
2' x 2'	65I/62C-37K8	6,947	102	68	57	72	83	12	78	101	>72,000 / 50,000
	65I/62C-37K9	5,963	87				95	65	88	104	
	65I/62C-43K8	7,130	105				83	9	81	99	
	65I/62C-43K9	6,036	89				95	69	91	103	
2' x 4'	130I/125C-37K8	14,826	109	136	113	143	83	12	78	101	>72,000 / 50,000
	130I/125C-37K9	12,726	94				95	65	88	104	
	130I/125C-43K8	15,217	112				83	9	81	99	
	130I/125C-43K9	12,883	95				95	69	91	103	

Information subject to change without notice. Visit [www.kenall.com](http://www.kenall.com) for .ies files and additional information.

#### <sup>1</sup>Lighting Power and Energy Calculations:

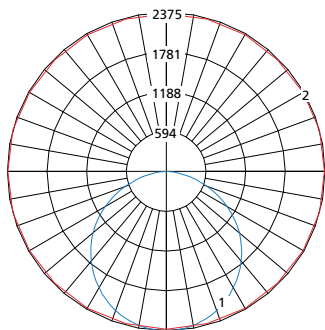
Use Occupied Power for total electrical load calculations. Use this value to estimate branch circuit lighting loads.

Use LPD Power for lighting power density calculations. Only the power attributed to white light is required per NEMA LSD EB 84-2021. Power used toward germicidal disinfection can be removed for this calculation.

Use Unoccupied and Occupied Power for Energy calculations to determine the power consumed over time based on the use of the space.

<sup>2</sup>TM-30 Color Vector Graphic available upon request.

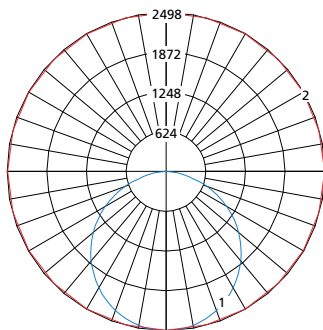
Model: M4SEDIC-14-65I\_62C-43K8-DIM1-www-2F-2H-SYM



Maximum Candela = 2375 Located At Horizontal Angle = 15, Vertical Angle = 2.5

— 1 - Vertical Plane Through Horizontal Angles (15-195) (Through Max. Cd.)  
 — 2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)

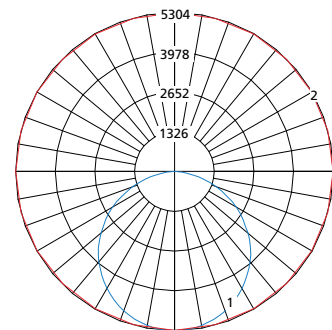
Model: M4SEDIC-22-65I\_62C-43K8-DIM1-www-2F-2H-SYM



Maximum Candela = 2496 Located At Horizontal Angle = 90, Vertical Angle = 2.5

— 1 - Vertical Plane Through Horizontal Angles (90-270) (Through Max. Cd.)  
 — 2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)

Model: M4SEDIC-24-130I\_125C-43K8-DIM1-www-2F-2H-SYM

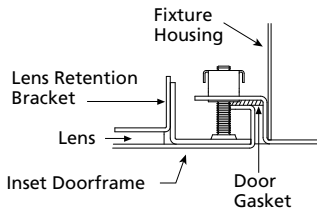


Maximum Candela = 5304 Located At Horizontal Angle = 0, Vertical Angle = 2.5

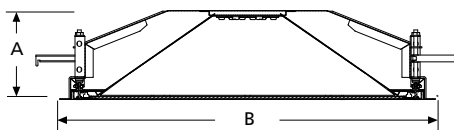
— 1 - Vertical Plane Through Horizontal Angles (0-180) (Through Max. Cd.)  
 — 2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)

## DIMENSIONAL DATA

### GASKET PROFILE



### CROSS SECTION



### CEILING CUTOUT



### DIMENSIONAL DATA (IN INCHES)

	A	B	C	D
1x4	5.22	11.75 x 47.75	10.85	46.85
2x2	5.22	23.75 x 23.75	22.85	22.85
2x4	5.22	23.75 x 47.75	22.85	46.85

\* Add .375" to ceiling cut out dimensions when IF Option is specified



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# INDIGO-CLEAN™ ROOM CONTROLLER SYSTEM

## IC100 SERIES

### PRODUCT FEATURES:

- » Room-level Disinfection Mode Control
- » Infrared & Ultrasonic Occupancy Detection

### SPECIFICATIONS

**IC100 CONTROLLER:** Centralized, zonal whole room continuous disinfection. Automatically switches Indigo-Clean luminaires between white disinfection and Indigo-Clean disinfection modes. Receives input from (1) ultrasonic and up to (5) passive-infrared (PIR) sensors with optional switch (by others). 0-10VDC dimming signal output to luminaires. Integral LED indicators provide system status. Dual technology controller requires input from both PIR and ultrasonic sensors. Maximum source current per controller: 60mA.

**IC100 SENSORS:** Operates on low-voltage power provided by the IC100 Controller. System includes three (3) passive infrared (PIR) sensors and one (1) ultrasonic, high-frequency (40kHz), sensor.

**CONTROLLER HOUSING:** Seam-welded 18-gauge CRS. White TGIC polyester powder coat finish with five-step pre-treatment. Housings provided with multiple 1/2" and 3/4" conduit knockouts. Controller housing includes clear polycarbonate window for viewing of system status indicators. Silicone gasketing. Pin-tumbler style keyed lock. All locks are keyed alike, two keys included.

**INSTALLATION:** Controller housing suitable for mounting to wall or ceiling surfaces with four-point mounting. Un-switched 120VAC or 277VAC input required for the IC100 controller. All signal cabling shall be wired Class 1 with 18AWG, 600V TFFN wire. IC100 ultrasonic and PIR sensors suitable for mounting to ceiling junction box.

PROJECT INFORMATION	
Job Name	_____
Fixture Type	_____
Catalog Number	_____
Approved by	_____



Controller



Ultrasonic Sensor  
One (1) Included



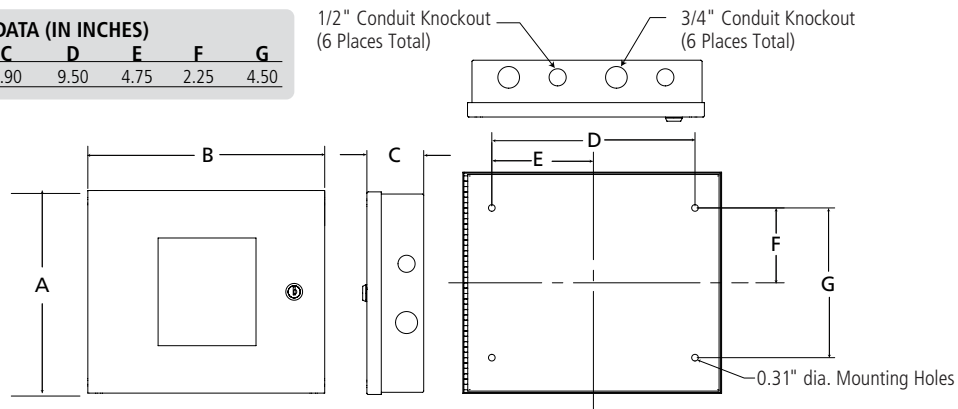
PIR Sensor  
Three (3) Included

### DIMENSIONAL DATA

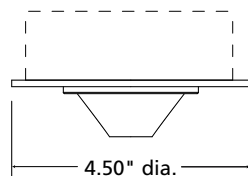
#### DIMENSIONAL DATA (IN INCHES)

A	B	C	D	E	F	G
6.85	14.10	2.90	9.50	4.75	2.25	4.50

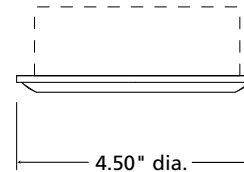
#### CONTROLLER HOUSING



#### PIR SENSOR



#### ULTRASONIC SENSOR

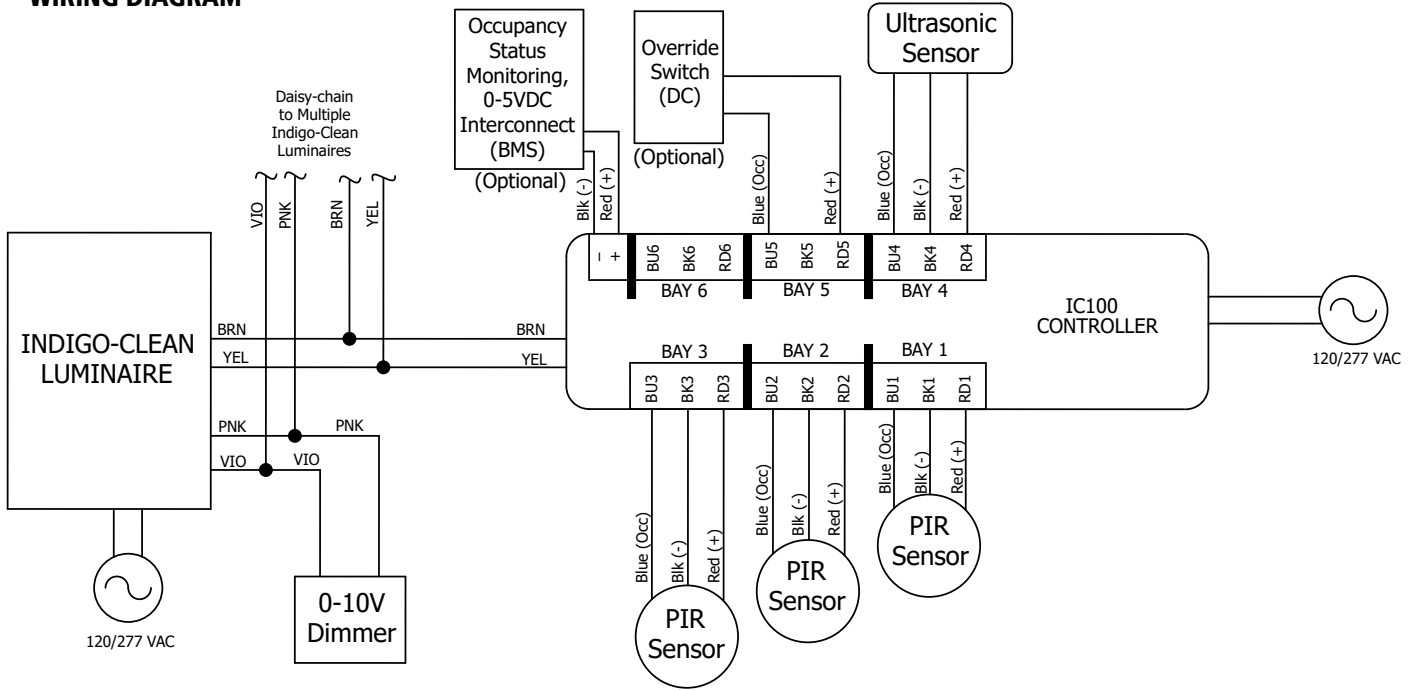


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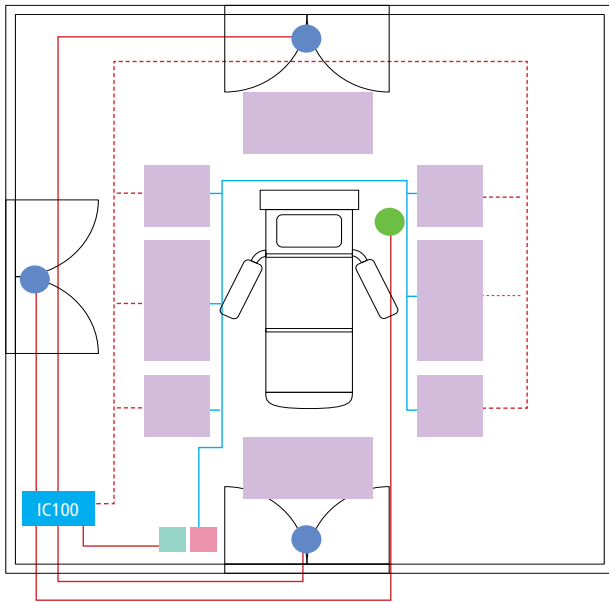
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# INDIGO-CLEAN™ ROOM CONTROLLER SYSTEM

## IC100 SERIES WIRING DIAGRAM



## TYPICAL LUMINAIRE/IC100 CONTROLS ROOM LAYOUT



- Indigo-Clean Fixtures
- Ultrasonic Sensor
- Passive Infrared Sensor
- External 0-10V Dimmer
- White Disinfection Mode Override Switch (DC) <OPTIONAL>

### IC100 Mode Control Load Limits

Product	Source Current per Luminaire (mA)	Max Luminaires per IC100 Controller
M4SEDIC-14	2	30
M4SEDIC-22	2	30
M4SEDIC-24	4	15
MEIC-22	1	60
MEIC-24	2	30
M4DLIC6	1	60

NOTE: Multiple Indigo-Clean product types may be controlled from a single IC100 controller as long as the maximum sink current rating (60mA) is not exceeded.

